



75TH AIR BASE WING



RFID and Hazardous Waste Implementation Highlights

Environment, Energy and Sustainability Symposium

May 2009

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Overview



- > What is RFID?
- > RFID and Hazardous Waste
- > Design Issues
- > ROI
- > Lessons Learned

RFID Introduction



- > Radio Frequency Identification (RFID)
 - Electronic tags that transmit identifying information
 - Tags are programmable
- > Passive RFID
 - Powered by received radio signal
- > Active RFID
 - Internal power source
- > Hill Air Force base hazardous waste tracking contract



RFID and Hazardous Waste



- > Hazardous waste inventory tracking and management affects regulatory compliance and program costs
 - Strict regulations require robust tracking methods, cradle-to-grave
- > RFID provides flexible identification
 - Automatic tracking can benefit numerous processes
 - > Collection
 - > Tracking
 - > Inspection and weighing
 - > Sampling
 - > Storage and segregation



> Automatic data capture

- As with any automatic system weakness must be understood for optimal performance
 - › Recognize that a read point may miss a tag
 - Instead rely on added visibility and automatic business process execution
- Feedback for reliability
 - › Require notification at positive identification points

Business Processes and RFID Comparisons



> RFID benefits over Barcode

- Do not require tag to be directly visible
 - › Label orientation and visibility not a factor
- Multiple tags can be read virtually simultaneous
- RFID tags can add data like:
 - › Expiration date
 - › Maintenance history
 - › Environmental conditions – temperature/humidity

> RFID benefits over Manual

- Above benefits along with data reliability

RFID Development Warehouse



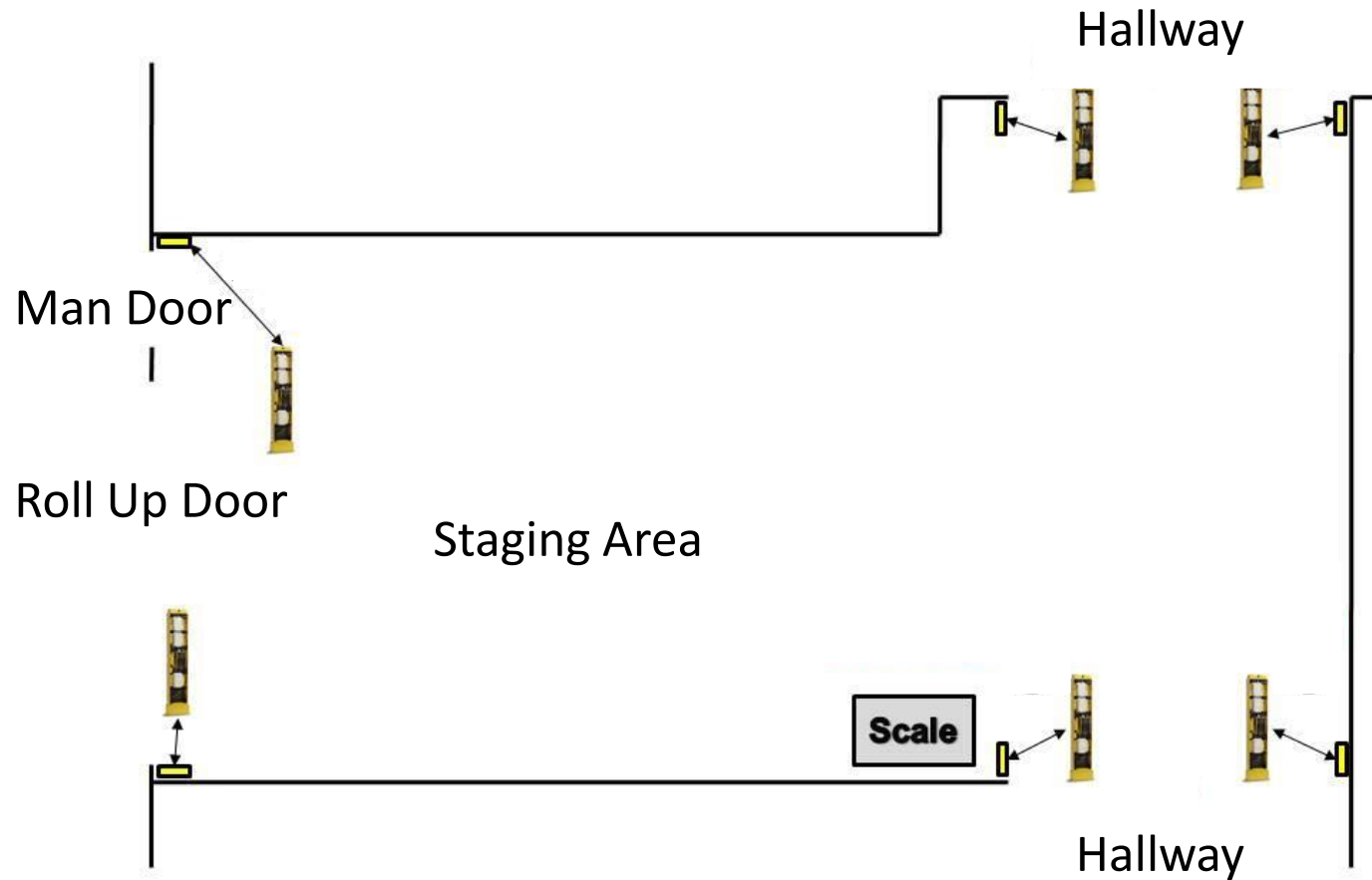
- > Pre-configure system
- > Test hardware



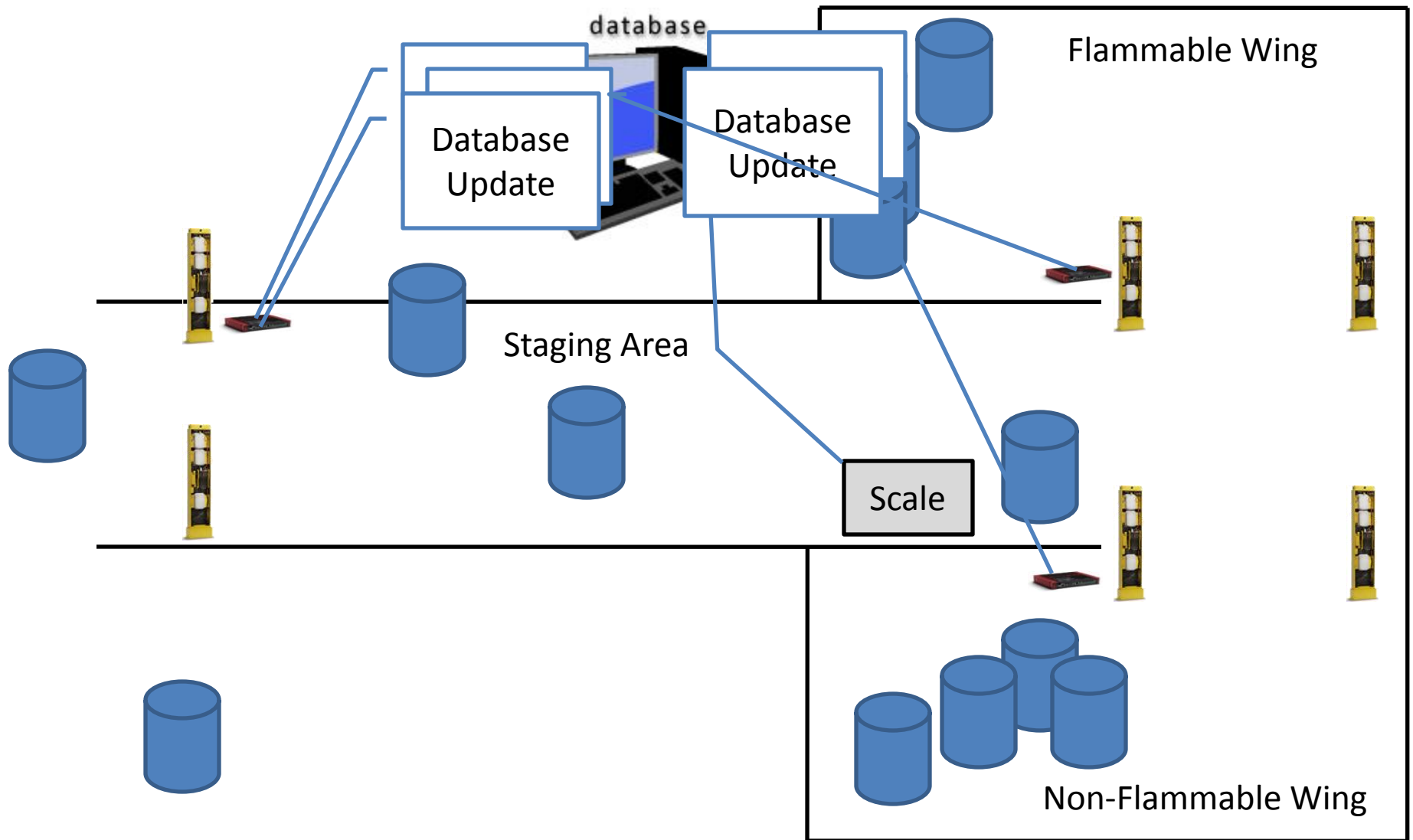
RFID Layout For Storage Facility



Staging Area Detail



HAFB Hazardous Waste Staging Area Detail



Return on Investment Concepts - Intangible



- > Improved safety and compliance monitoring through real-time tracking of compatible waste storage.
- > Streamlined inventory and tracking
 - No line of sight needed
- > Increased visibility
 - Supports Federal, State, and other required scheduled reports.
- > Risk management
 - Preventative maintenance – system reduces the chance of a Notice of Violation (NOV)



Quantitative ROI for Hazardous Waste



- > Automatic inventory ability can equate to significant savings per year versus manual inventory processes
- > Manual data errors equate to lost time diagnosing the problem, or worse.
- > The avoidance of NOV fines from lost containers or improper storage can cover a system outright.



- > Automatic tracking locations
 - Understand system limitations - misreads
 - Make adjustments for multiple reads
 - Good idea to provide some visual feedback especially if reliability is critical
- > RFID provides excellent additional safeguards for compatibility checks
- > Effective system for automatic acquisition of scale weight



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